The Examiner states that the specification has not characterized these viruses as being useful in increasing endoreduplication and yield.

The statement is respectfully traversed. The present application provides extensive discussion and characterization of the nature of the geminivirus replicase polynucleotides required by the present claims. The present application also provides a complete disclosure for methods of using the replicase polynucleotides to increase yield and endoreduplication.

The Examiner further states that Applicant has not characterized Rb binding function per se as being involved in increasing endoreduplication and yield in a plant.

It is respectfully submitted that the claims require a replicase polynucleotide. The replicase polynucleotide is defined as a polynucleotide that encodes a replicase polypeptide exhibiting Rb binding function. Further the present application provides the following disclosure "Replicase binds to a well-characterized binding motif on the Rb protein (Xie et al., The EMBO Journal Vol. 14 No. 16 pp. 4073-4082, 1995; Orozco *et al.*, Journal of Biological Chemistry, Vol. 272, No. 15, pp. 9840-9846, 1997; Timmermans et al., Annual Review Plant Physiology. Plant Mol. Biol. 45:79-112, 1994; Stanley, Genetics and Development 3:91-96, 1996; Davies et al., Geminivirus Genomes, Chapter 2, and Gutierrez, Plant Biology 1:492-497, 1998)". The disclosures in the items were incorporated by reference. (Page 5, lines 12-19)

Therefore, the present application provides evidence and sound scientific reasoning for claiming methods for increasing endoreduplication and increasing yield for using the disclosed Geminivirus.

Claims 3, 5-6 and 9-17 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods for increasing endoreduplication and crop yield by stably transforming a plant with an isolated wheat dwarf virus RepA geminivirus replicase polynucleotide, does not reasonably provide enablement for methods for increasing endoreduplication and crop yield by

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stably transforming a plant with an isolated plant geminivirus replicase polynucleotide.

It is noted that claims 3 and 9 require the wheat dwarf virus RepA geminivirus replicase polynucleotide and are therefore presumed enabled.

As noted above and discussed in detail in previous responses, the application discloses various geminivirus replicase polynucleotides suitable for increasing endoreduplication and crop yield. A working example is provided in the present specification and a reasoned analysis was previously provided for the suitability of various geminivirus replicase polynucleotides for increasing endoreduplication and crop yield.

The Examiner notes that Hanley-Bowdoin et al. report that transgenic tobacco plants expressing the TGMV geminivirus replicase are phenotypically normal (page 1450 column 1, last paragraph).

It is respectfully submitted that the claims require an increase in endoreduplication or an increase in yield.

There is no indication that endoreduplication or crop yield were determined or considered by Hanley-Bowdoin et al. In fact quite the contrary, Hanley-Bowdoin et al. studied disease resistance mechanisms. Hanley-Bowdoin et al. make the comment that the transgenic plants are normal in appearance and fertility which says nothing about endoreduplication or yield. Nuclear analysis is required to determine endoreduplication and total seed production is needed to determine yield.

Thus, Hanley-Bowdoin et al. provide no evidence whatsoever with regard to the present claims.

The USPTO carries the initial burden to establish a reasonable basis for questioning the enablement provided for the claimed invention. As stated in *In re Wright*, 99, F.2d 1557, 27 USPQ2d 1510 (Fed. Cir. 1993); MPEP § 2164.04, the enablement requirement is satisfied if the specification describes any method for making and using the claimed invention that bears a "reasonable correlation" to the

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entire scope of the claims. Applicants submit that this has been accomplished in the present application.

The Examiner states that the specification has not characterized geminiviruses as being useful in increasing endoreduplication and yield.

The statement is respectfully traversed. The present application provides extensive discussion and characterization of the nature of the geminivirus replicase polynucleotides required by the present claims. The present application also provides a complete disclosure for methods of using the replicase polynucleotides to increase yield and endoreduplication.

In view of the above comments, withdrawal of the outstanding rejections and allowance of the remaining claims is respectfully requested.

Respectfully submitted,

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